

# Work Order ID 85749

June-14-12 1:58:19 PM

**\*85749\***

Page 1

Item ID: D4149-041

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Crosstube Lug Assembly, Aft

Start Date: 14/06/2012 Start Qty: 16.00

**\*16\***

Cust Item ID:

Required Date: 28/06/2012 Req'd Qty: 16.00

**\*16\***

Customer:

Reference:

Approvals: Process Plan: MLJ

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4149	C

100 0.00

**\*100\***

Small Fab

Memo

0.00

Small Fab

1- Assemble as per dwg

*16x* *ES/07/12*

110 QC5- Inspect part completeness to step on W/O 0.00

**\*110\***

QC

Memo

0.00

Quality Control

*5/21/12*

*(x16)*

120 Identify as per dwg & Stock Location: *5468* 0.00

**\*120\***

Packaging

Memo

0.00

Packaging

*16x*

*SP*  
*12-7-9*

**Work Order ID 85749**

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**\*85749\***

Page 2

Item ID: D4149-041

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Crosstube Lug Assembly, Aft

Start Date: 14/06/2012 Start Qty: 16.00

**\*16\***

Cust Item ID:

Required Date: 28/06/2012 Req'd Qty: 16.00

**\*16\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130

QC21- Final Inspection - Work Order Release

0.00

**\*130\***

QC

Memo

0.00

Quality Control

CK 12/7/10

MF  
12-07-10

# Picklist Print

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Page 2

Work Order ID: 85749

Parent Item: D4149-041

Parent Item Name: Crosstube Lug Assembly, Aft

**\*85749\***

**\*D4149-041\***

Start Date: 14/06/2012

Required Date: 28/06/2012

Start Qty: 16.00

Required Qty: 16.00

✓ D3910-1

Manufactured No

100 Each

31.0000

1

16

**\*D3910-1\***

Crosstube Lug

\*\*

Location

Loc Qty

Loc Code

st507

31

81474

2

81573

29

D4091-1

Manufactured No

100 Each

66.0000

1

16

**\*D4091-1\***

Mounting Lug

\*\*

Location

Loc Qty

Loc Code

ST458

66

81168

26

81575

40

D4149-1

Manufactured No

100 Each

15.0000

2

32

**\*D4149-1\***

Crosstube Lug Plate, Aft

\*\*

Location

Loc Qty

Loc Code

ST102

15

82121

3

83472

12

D4149-3

Manufactured No

100 Each

13.0000

1

16

**\*D4149-3\***

Spacer

\*\*

Location

Loc Qty

Loc Code

ST102

13

78046

1

84194

12

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Shop Packet Print

Page 2

# Picklist Print

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Page 3

Work Order ID: 85749

Parent Item: D4149-041

Parent Item Name: Crosstube Lug Assembly, Aft

\*85749\*

\*D4149-041\*

Start Date: 14/06/2012

Required Date: 28/06/2012

Start Qty: 16.00

Required Qty: 16.00

D4149-5 Manufactured No

\*D4149-5\*

Eyebolt Stud

100 Each 20.0000 1 16

\*\*

12/07/09

385783 (12)

## Location

## Loc Qty

## Loc Code

ST102

20

83888

7

84195

13

AN3C12A Purchased No

\*AN3C12A\*

Bolts

100 Each 225.0000 2 32

\*\*

12/07/09

## Location

## Loc Qty

## Loc Code

GA

38

120449

38

ST351

187

117514

4

118112

5

118451

22

119510

1

120423

51

121259

4

121584

50

121689

50

AN4C13A Purchased No

\*AN4C13A\*

BOLT

100 Each 48.0000 3 48

\*\*

12/07/09

## Location

## Loc Qty

## Loc Code

ST357

48

120187

1

121827

47

M122141 (48)

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Shop Packet Print

Page 3

# Picklist Print

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Page 4

Work Order ID: 85749

Parent Item: D4149-041

Parent Item Name: Crosstube Lug Assembly, Aft

\*85749\*

\*D4149-041\*

Start Date: 14/06/2012

Required Date: 28/06/2012

Start Qty: 16.00

Required Qty: 16.00

MS20615-4M18

Purchased

No

100

Each

53.0000

3

48

\*MS20615-4M18\*

Rivet

## Location

## Loc Qty

## Loc Code

322

3

121349

3

ST322

50

121444

50

NAS1149C0332R

Purchased

No

100

Each

9,894.000

4

64

\*NAS1149C0332R\*

Washer

## Location

## Loc Qty

## Loc Code

297

9892

122063

9892

ST298

2

121509

2

NAS1149C0432R

Purchased

No

100

Each

3,792.000

6

96

\*NAS1149C0432R\*

Washer

## Location

## Loc Qty

## Loc Code

ST297

1070

117291

70

119124

1000

ST298

2722

121255

2722

\*\* 3

PS 12/07/09

M122141 (182)

\*\*

PS 12/07/09

64

\*\*

PS 12/07/09

96

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

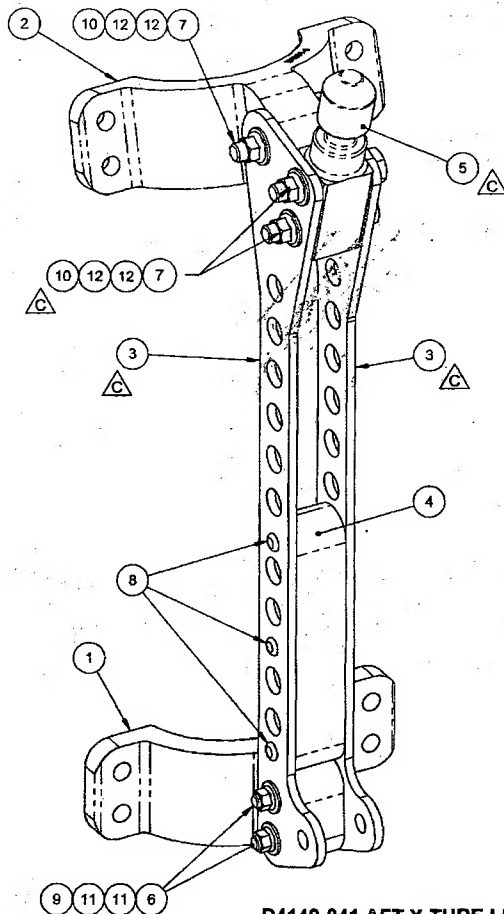
DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width:100%; border: none;"> <tr> <td style="width: 25%;">Skid-tube <input type="checkbox"/></td> <td style="width: 25%;">Crosstube <input type="checkbox"/></td> <td style="width: 25%;">Prod. Eng. Coord. <input type="checkbox"/></td> <td style="width: 25%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> <td></td> </tr> </table>						Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Supplier <input type="checkbox"/>		Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Other <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Engineering <input type="checkbox"/>																								
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Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Other <input type="checkbox"/>																									
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector																		
Doc/Data <input type="checkbox"/>																											
Equip/Tooling <input type="checkbox"/>																											
Operator <input type="checkbox"/>																											
Material <input type="checkbox"/>																											
Offset/Setup <input type="checkbox"/>																											
Other <input type="checkbox"/>																											
Process <input type="checkbox"/>																											
Supplier <input type="checkbox"/>																											
Training <input type="checkbox"/>																											
Unauthorized <input type="checkbox"/>																											

FAULT CATEGORY			
<b>Landing Gear</b> <input type="checkbox"/> Bending Passes Below Min <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimp at Bending <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Other <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Ripples on Inner Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>Hardware</b> <input type="checkbox"/> Breaking <input type="checkbox"/> Missing <input type="checkbox"/> Size/Length <input type="checkbox"/> Spinning <input type="checkbox"/> Threading <input type="checkbox"/> Wrong  <b>Drill Holes</b> <input type="checkbox"/> Misaligned <input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Undersized <input type="checkbox"/> Too Many	<b>General</b> <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Documentation/Data <input type="checkbox"/> Finish <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Inspection Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Jigs/Fixtures/Tooling <input type="checkbox"/> Kit Incorrect <input type="checkbox"/> Kit Missing	<input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Off-Set <input type="checkbox"/> Orientation Misread <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Lost <input type="checkbox"/> Part Moved <input type="checkbox"/> Raw Material  <input type="checkbox"/> Set-up <input type="checkbox"/> Supplier <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other



**D4149-041 AFT X-TUBE LUG ASSY**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4149-041" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 2.21 lbs

ITEM	QTY -041	P/N	DESCRIPTION
	X	D4149-041	AFT X-TUBE LUG ASSY
1	1	D3910-1	X-TUBE LUG
2	1	D4091-1	MOUNTING LUG
3	2	D4149-1	AFT X-TUBE LUG PLATE
4	1	D4149-3	SPACER
5	1	D4149-5	EYEBOLT STUD
6	2	AN3C12A	BOLT
7	3	AN4C13A	BOLT
8	3	MS20615-4M18	RIVET
9	2	MS21043C3	NUT
10	3	MS21043C4	NUT
11	4	NAS1149C0332R	WASHER
12	6	NAS1149C0432R	WASHER

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER

NO. 85749 MJS  
12/06/14 RELEASED  
2011-02-24 JMW

C	HOLE DIA CHANGED TO 0.252" (D8-3); HOLE DIA CHANGED TO 0.250" (C8-5); REPLACED QTY(2) AN3C12A, MS21043C3 AND QTY(4) NAS1149C0332R WITH QTY(2) AN4C13A, MS21043C4 AND QTY(4) NAS1149C0432R (D3-1, D7-2)	SC	11.02.22
B	MS20615-4M18 WAS MS20615-4M20 (ZN D3-1 & B7-2); ADDED D4149-5 (SHT 5); D4149-5 WAS D3909-5 (ZN D3-1 & D7-2); REPLACED QTY(5) MS20615-4M18 WITH QTY(2) EACH AN3C12A, MS21043-3 AND QTY(4) NAS1149C0332R WASHER (ZN D3-1, C7-1, B7-2 & B3-2); Ø0.191 2 PL REPLACES Ø0.129 3 PL (ZN D6-3); REASON: SEE TR-D350-607-2 REV. B.	MB	10.07.05
A	NEW ISSUE	MB	10.06.18
REV.	DESCRIPTION	BY	DATE
DESIGN	MB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4149	SHEET 1 OF 5
APPROVED		TITLE	SCALE
DE APPR.		AFT X-TUBE LUG ASSY	NTS
DATE	11.02.22	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR FOR ANY REPRODUCTION TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

AN4C13A BOLT  
NAS1149C0432R WASHER, 2X  
MS21043C4 NUT  
3PL

D4149-5  
EYEBOLT STUD

MS20615-4M18  
RIVET  
3 PL

**D4149-041 AFT X-TUBE LUG ASSY**

D4091-1  
MOUNTING LUG

D4149-1  
AFT X-TUBE LUG PLATE  
2 PL

D4149-3  
SPACER

AN3C12A BOLT  
NAS1149C0332R WASHER, 2X  
MS21043C3 NUT  
2 PL

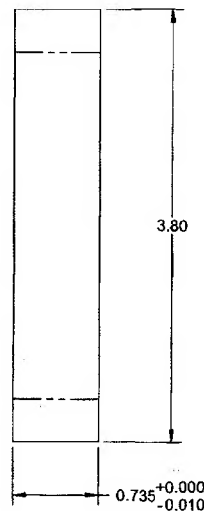
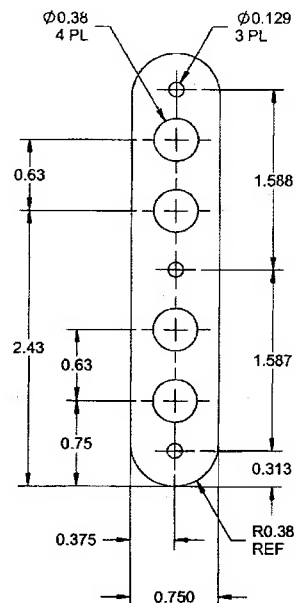
D3910-1  
X-TUBE LUG

**RELEASED**  
2011-02-24

DESIGN	MB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED		DRAWING NO. <b>D4149</b>	REV. C
MFG. APPR.		SHEET 2 OF 5	
APPROVED		TITLE	SCALE
DE APPR.		<b>AFT X-TUBE LUG ASSY</b>	NTS
DATE	11.02.22	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

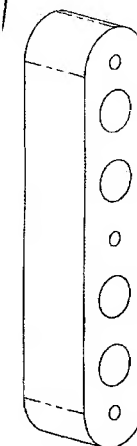






**D4149-3 SPACER**

05749



RELEASED  
2011-02-24

**NOTES:**

- 1) MATERIAL: 303/304/316 STAINLESS STEEL BAR PER ASTM A276 OR A582  
REF DART SPEC MS304B OR MS303B
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.47 lbs

DESIGN	MB	<b>DART AEROSPACE LTD</b> HAWKESSBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		<b>D4149</b>	SHEET 4 OF 5
APPROVED		TITLE	SCALE
DE APPR.		<b>AFT X-TUBE LUG ASSY</b>	NTS
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